

Vision, Aspirations, and Philosophy for a Transformative Curriculum

Through our Educational Renaissance efforts, our aspiration is to transform the education and training of our students, creatively and thoughtfully changing what we teach and how we teach as a means to improving student learning and differentiating our students by positioning them to reach their full potential and providing them with a competitive market advantage. As our inaugural Class of 2019 has completed an entire year in the new curriculum, including the first early immersion, it is important to reflect on our experiences to date, and to reference explicitly our overall vision, aspirations, and philosophy for a transformative curriculum.

Strategic Plan 2012–2017

Our Strategic Initiative 1: An Educational Renaissance to Transform Education, Enlighten Students, and Advance Health Care

The school's Educational Renaissance initiative is an integral component of the school's strategic plan, and it speaks to the school's aspirations to transform education, enlighten students, and advance health care.

Environmental Scan

The School prides itself on its faculty who are leaders and innovators in science, teaching, and clinical practice and on its students recruited from among the best and brightest applicants to our programs. Yet the teaching and learning methodologies employed in our classrooms have remained largely unchanged for decades. *The School aspires to capitalize on its rich resources and transform the education and training of our students, creatively and thoughtfully changing what we teach and how we teach as a means to improving student learning and differentiating our students.*

It is imperative that we continually challenge ourselves to anticipate the emerging needs of the health-care system, the pharmaceutical industry, and society so that we are positioning our professional and graduate students for success. Our commitment to improving student learning is driven by the need to develop students as critical thinkers, problem solvers, team players, scholars, and leaders; to fully engage students and faculty throughout the learning process; to stimulate higher-order thinking through the use of creative technologies; to immerse professional students in patient care early in their education and training so they are learning and applying what they learn in a real-world setting; and to utilize an outcomes-driven learning experience whereby student learning and performance is assessed and advanced over time. *It is our belief that this transformation will position our students to reach their full potential, provide them with a competitive market advantage, and strategically position the School as a model institution for educational innovation and excellence.*

For more information on Strategic Initiative 1, including the objectives and key performance indicators, please refer to our web site: <http://unc.live/2eFvprk>

Educational Philosophy of The Faculty

As a faculty member at a research-intensive School of Pharmacy at a public, research-intensive University, I embrace the full mission of the University in serving the citizens of North Carolina and beyond through teaching, research, and public service. As an extension of my unique expertise and my scholarship, I commit to instilling in students habits of curiosity, inquiry, and critical thinking to inspire them to be life-long learners and leaders in pharmacy and the pharmaceutical sciences.

Endorsed by the faculty at 2nd Annual Educational Renaissance Symposium, December 2013

Program Outcomes for our Pharm.D. Curriculum

We will create:

- Exemplary pharmacy practitioners who provide high-quality, team-based, patient-centered care;
- Leaders and innovators who identify opportunity, lead teams toward improvement and change, and positively impact human health and health care; and
- Lifelong learners who continually strive for positive impact both personally and professionally.

For more information on our program outcomes and core competencies, please refer to our web site: <http://unc.live/2eFzo7q>

Pharm.D. Program Core Competencies

The core competencies reflect the skills, areas of knowledge, and abilities that we aspire to foster in our students throughout their time at the UNC Eshelman School of Pharmacy. We believe these attributes are critical to achieving our Pharm.D. program outcomes and advancing the practice of pharmacy. Our students are expected to develop the following core competencies through coursework, immersion experiences (including practica), and co-curricular experiences:

- 1 **In depth knowledge and proficient skills in the pharmaceutical sciences and the practice of pharmacy:** demonstrate an in-depth understanding of medicines, human health, and health care, and apply the principles and practice of pharmacy to advance human health and health systems
- 2 **Accessing and analyzing information:** identify, locate, critically evaluate, and process information to arrive at an informed opinion
- 3 **Critical thinking and problem solving:** engage in the comprehensive exploration of issues, ideas, and events to identify, prevent, or solve problems
- 4 **Communication:** effectively develop, express, and listen to ideas that inform, inspire, or create focus
- 5 **Collaboration and Influence:** work effectively with others to create networks and groups that respect differences and make progress toward a common goal
- 6 **Adaptability:** demonstrate a willingness and ability to change in order to fit new surroundings, ideas, trends, and technologies
- 7 **Initiative:** be self-directed; seek out new opportunities, ideas, and strategies; take responsibility for implementing plans and ideas
- 8 **Curiosity and Inquisitiveness:** demonstrate a desire to learn and understand more than is currently understood
- 9 **Professionalism and ethical behavior:** uphold the highest standards of professional and ethical behavior and act appropriately, thoughtfully, and with integrity at all times

Defining Elements of Curriculum 2015

The CTSC was charged in January 2013 with facilitating the design of a transformative curriculum that would create graduates who are exemplary practitioners, leaders, innovators, and lifelong learners and would ensure that they are well positioned to have a positive impact on patient care and health care delivery. The defining elements and key features of the new curriculum are:

- Self-directed learning outside the classroom and active engagement of students in higher forms of thinking and problem solving inside the classroom.
- Fostering of scientific inquiry and innovation.
- Early immersion indirect patient care as a member of an interdisciplinary team.
- Reengineering of the admission process to emphasize both cognitive and noncognitive skills critical to student success in the new curriculum.

Guiding Principles

- Faculty will instill in students **habits of inquiry, curiosity, and critical thinking** and inspire students to be **lifelong learners and leaders in pharmacy**.
- Ensure a **rigorous and intensive curriculum** that provides the **necessary breadth** to shape student development while providing students with a **deeper understanding of medicines and the pharmaceutical sciences**.
- Integrate **active learning** throughout the educational experience to build upon knowledge and skills and to **develop higher forms of thinking and problem solving**.
- Work collaboratively with other health professions to create opportunities to develop students as **members of an interdisciplinary team**.
- Implement an **assessment plan** to guide the development of student learning.
- Innovate, evaluate, and continually refine the curriculum ensuring a **process of continuous quality improvement**.

Integrative Pharmacotherapy Knowledge & Skill Domains

Integrative Pharmacotherapy is the application and practice of combining baseline foundational knowledge and skills to applicable patient populations through medication (prescription and non-prescription) and non-pharmacologic (CAM, lifestyle, prevention) therapeutic plans development. By the end of the Integrative Pharmacotherapy course stream (includes 3 didactic courses and 2 immersion experiences), students will demonstrate appropriate levels of proficiency in:

- 1 **Clinical Decision Making:** applying the clinical decision making framework to optimize medication outcomes for patients
- 2 **Drug & Disease State Knowledge:** demonstrating fluency with foundational knowledge necessary to manage drug and disease state problems that pharmacists frequently encounter
- 3 **Effective Communication:** conveying key knowledge verbally and in writing to varying target audiences
- 4 **Collaboration:** working effectively within a team environment to achieve optimal medication use and patient health outcomes
- 5 **Healthcare Delivery Understanding:** determining where medication processes are most likely to fail or require optimization with consideration for drug- and patient-specific circumstances; and formulating a safe, effective medication therapy plan for a patient that addresses the strengths and limitations of their current and future locations in the continuum of health care delivery
- 6 **Patient Centered Advocacy:** providing care that is respectful of and responsive to individual patient preferences, needs, and values and ensuring that patient values guide all clinical decisions
- 7 **Lifelong Learning Skills:** applying skills supporting lifelong learning to new tasks or in new contexts to achieve an acceptable level of competency in a reasonable amount of time
- 8 **Professionalism:** demonstrating the core traits of professionalism

Integrative Pharmacotherapy SOAP Table Template

Integrative Pharmacotherapy is the application and practice of combining baseline foundational knowledge and skills to applicable patient populations through medication (prescription and non-prescription) and non-pharmacologic (C-AM, lifestyle, prevention) therapeutic plans development.

SUBJECTIVE/OBJECTIVE		ASSESSMENT		PLAN			
Disease or Medical Problem Subj-jective & Objec-tive Evidence	Current Medica-tion(s) or Regi-men(s) Related to Problem	Etiology includ-ing Classification of Medication Therapy Prob-lems	Evaluate Need for Current Therapy or Alterna-tive/New Therapy with References	Prioritize Prob-blems (1 to 3)	Recommended Drug Treatment	Goals of Plan and Specific Monitor-ing Parameters with Frequency	Patient/Family Education
Subjective: Objective:		Medication Ther-apy Problem Cat-egory: Etiology:	Need for Thera-py: Current/ Rec-ommended Ther-apy: Treatment Op-tions: References:		Recommended Treatment: What to Avoid: Further Plans: References:	Goal: Monitoring Ther-apeutic: Monitoring Tox-ic:	
Problem 1							
Subjective: Objective:		Medication Ther-apy Problem Cat-egory: Etiology:	Need for Thera-py: Current/ Rec-ommended Ther-apy: Treatment Op-tions: References:		Recommended Treatment: What to Avoid: Further Plans: References:	Goal: Monitoring Ther-apeutic: Monitoring Tox-ic:	
Problem 2							

Integrative Pharmacotherapy SOAP Table Details (Part 1 of 2)

Integrative Pharmacotherapy is the application and practice of combining baseline foundational knowledge and skills to applicable patient populations through medication (prescription and non-prescription) and non-pharmacologic (CAM, lifestyle, prevention) therapeutic plans development.

SUBJECTIVE/OBJECTIVE		ASSESSMENT	
Disease or Medical Problem Subjective & Objective Evidence	Current Medication(s) or Regimen(s) Related to Problem	Etiology including Classification of Medication Therapy Problems	Evaluate Need for Current Therapy or Alternative/New Therapy with References
Subjective: <ul style="list-style-type: none"> - Listen to what the patient is saying about how he/she feels - Observe the patient - Note observations of others Objective: <ul style="list-style-type: none"> - Laboratory tests - Physical assessment parameters - Results of procedures and other diagnostic tests - History as documented in medical record 	What drug(s) is the patient on for the specific problem? All drugs should correspond to a problem or the problem list is incomplete. Some drugs may treat more than one problem	Medication Therapy Problem Category: <ul style="list-style-type: none"> - Unnecessary medication therapy - Needs additional medication therapy - Ineffective medication - Dosage too low - Needs additional monitoring - Adverse medication reaction - Dosage too high - Adherence See reverse for categories Etiology: <ul style="list-style-type: none"> - What is the cause of the problem? - Does the patient have risk factors? 	Need for Therapy: <ul style="list-style-type: none"> - Is the problem controlled, uncontrolled, acute worsening? - What would be the outcome if the patient is not treated? Current/ Recommended Therapy: <ul style="list-style-type: none"> - Are all the current drug(s) necessary? State the reason why the regimen is or is not the BEST regimen for this patient considering other problems and contexts of the patient (e.g., age, gender, organ function, cost, etc.) - Is the dosage form, route and duration correct? Is the patient responding appropriately? - Is the patient exhibiting adverse effects? - Has the patient been adherent to treatment? Treatment Options: <ul style="list-style-type: none"> - What are the options available to manage this problem? References:

Integrative Pharmacotherapy SOAP Table Details (Part 2 of 2)

PLAN			
Prioritize Problems (1 to 3)	Recommended Drug Treatment	Goals of Plan and Specific Monitoring Parameters with Frequency	Patient/Family Education
<p>1 = The most urgent</p> <p>2 = Other problems that must be addressed immediately or during this clinical encounter</p> <p>3 = Problem that can be addressed later (e.g., a week or more after discharge or at next follow-up visit)</p>	<p>Recommended Treatment:</p> <ul style="list-style-type: none"> - Continue treatment or discontinue treatment along with reasons - Recommend drug, dose, dosage form, route, schedule, and duration - Begin full dose or titration? <p>What to Avoid:</p> <ul style="list-style-type: none"> - Are there reasons why specific drugs are not being used to treat this problem? Why? - Should any drugs be specifically avoided in this patient? Why? <p>Further Plans:</p> <ul style="list-style-type: none"> - What additional tests or procedures are required to further confirm the diagnosis of the problem or to establish a baseline for monitoring the progress of the problem? - If the current treatment is not working or results in an adverse effect, what alternative therapies are available and under what circumstances should they be considered? <p>References:</p>	<p>Goal:</p> <ul style="list-style-type: none"> - What are the goals for this problem? (e.g., cure, prevent complications, prevent morbidity or mortality, reduce symptoms, return an abnormal lab test to normal, avoid adverse effect of interaction, improve QOL, etc.) <p>Monitoring Therapeutic:</p> <ul style="list-style-type: none"> - What parameters will be used to determine if the goals are met? - How often should they be performed? - When will you know the endpoint has been reached? <p>Monitoring Toxic:</p> <ul style="list-style-type: none"> - What parameters (S & O) will be used to determine if toxic or adverse effects are occurring? - How often should they be performed? - How will it be determined if they are drug-related? - How will the reaction or effect be managed? 	<ul style="list-style-type: none"> - Use of drug - Administration guidelines - Precautions - What to do if a dose is missed - Anticipated side effects and management - Preventative measures and lifestyle changes that may be needed - Disease state education - What can the patient do to enhance the likelihood of adherence to the regimen?



Medication Therapy Problem Categories Framework for PQA Measures

The *Medication Therapy Problem (MTP) Categories Framework* is a consensus-based document developed by the Pharmacy Quality Alliance's (PQA's) Measure Development Team (MDT) 9, to provide a framework for development of measures involving MTPs. The framework is intended to standardize how MTPs identified during Medication Therapy Management (MTM) encounters are categorized within measures. The MDT incorporated input from numerous MTM providers and practices, and referred to MTP categories established in the literature.¹ This standard framework for use within measures will promote consistent categorization and coding of MTPs and the related actions/recommendations to resolve the MTPs. This framework may evolve over time.

Medication Related Needs	Medication Therapy Problem Category	Medication Therapy Problem Rationale
Indication	Unnecessary medication therapy	Duplicate Therapy
		No medical indication at this time
		Nonmedication therapy more appropriate
		Addiction/recreational medication use
		Treating avoidable adverse medication reaction
	Needs additional medication therapy	Preventative therapy
Effectiveness	Ineffective medication	Untreated condition
		Synergistic therapy
		More effective medication available
		Condition refractory to medication
		Dosage form inappropriate
	Dosage too low	Contraindications present
		Medication not effective for condition
		Dose too low
		Frequency inappropriate
		Incorrect administration
		Medication interaction
		Incorrect storage
	Needs additional monitoring	Duration inappropriate
		Medication requires monitoring
Safety	Adverse medication reaction	Undesirable effect
		Unsafe medication for the patient
		Medication interaction
		Incorrect administration
		Allergic reaction
		Dosage increase/decrease too fast
	Dosage too high	Dose too high
		Frequency inappropriate
		Duration inappropriate
		Medication interaction
Needs additional monitoring	Medication requires monitoring	
Adherence	Adherence	Does not understand instructions
		More cost effective medication available
		Cannot afford medication product
		Patient prefers not to take
		Patient forgets to take
		Medication product not available
		Cannot swallow/administer medication

¹ Cipolle RJ, Strand LM, Morley PC. *Pharmaceutical Care Practice: The Patient-Centered Approach to Medication Management*. 3rd ed. New York, NY: McGraw-Hill; 2012, p 157)